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EXAMINER

NGUYEN, STEVE N

ART UNIT

PAPER NUMBER

2133

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/070,848	RAJALA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Steve Nguyen	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2005.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,5,8-11,15,18-22,24,27,31,34-36,38,41,42,46,49 and 50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,8-11,15,18-22,24,27,31,34-36,38,41,42,46,49 and 50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

ET

## **DETAILED ACTION**

1. Claims 1, 5, 8-11, 15, 18-22, 24, 27, 31, 34-36, 38, 41, 42, 46, 49, and 50 are pending and have been examined.

### ***Claim Objections***

2. In view of the amended claims, all objections in the prior Office Action are withdrawn.

### ***Claim Rejections - 35 USC § 112***

3. The U.S.C. 112, second paragraph rejection of claims 1, 5, 11, and 15 has been withdrawn in view of the amendments.

### ***Examiner's Remarks***

4. The Final Office Action, filed 5/18/05, has been withdrawn. Claims 51-54 were found to contain allowable subject matter in the prior Final Office Action. However, the Examiner has concluded upon a further search that claims 51-54 are not patentably distinct or non-obvious over the prior art recited in the new grounds of rejection. Independent claims 1, 5, 11, and 15 are also not patentably distinct or non-obvious over the prior art of record as a result.

***Claim Objections***

5. Claims 8, 18, 22, 36, and 41 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 8, 18, 22 recite, "wherein said predetermined value is adjusted on the basis of the transmission rate of the data, the size of the window, or the round-trip delay of the channel". However, it is unclear whether increasing the count by a predetermined value in above claims ever occurs since this limitation is written in the alternative. The above similarly applies to claims 36 and 41.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2133

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 
6. Claims 1, 6, 8, 9, 22, 24, 27, and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens in view of Chen et al (US Pat. 4,970,714; hereinafter referred to as Chen-714) in view of Chen et al (US Pat. 5,751,719; hereinafter referred to as Chen-719).

As per claim 1:

Stevens teaches an error control method for a transmission channel, wherein a transmission of data units via said transmission channel is controlled in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control method comprising the steps of:

- defining a transmit window based on said sequence number of said unacknowledged preceding data unit (page 280, section 20.3, paragraph 1);

Art Unit: 2133

- allowing the transmission of a data unit only if the sequence number of said data unit lies within said transmit window (page 280, section 20.3, paragraph 1; Figure 20.4 shows that packets 10 and 11 can not be sent because it is not in the window);

Not explicitly disclosed by Stevens is:

- estimating a transmission quality of said transmission channel by detecting a data unit erasure or loss at the receiving end of said transmission channel; and
- changing the transmission rate of acknowledgment messages in response to the detection of a data unit erasure or loss at the receiving end of said transmission channel, said step of changing including the steps of:
- counting the number of data units which have been successfully received and generating a count value based on the number of data units that have been successfully received;
- transmitting an acknowledgement message when said count value exceeds a predetermined threshold value; and
- one of increasing the count value by a predetermined value and decreasing said predetermined threshold value when a data unit erasure or loss has been detected, wherein the predetermined value is greater than one.

Chen-714 in an analogous art teaches:

Art Unit: 2133

- estimating a transmission quality of said transmission channel by detecting a data unit erasure or loss at the receiving end of said transmission channel (col. 16, lines 9-14); and
- changing the transmission rate of acknowledgment messages in response to the detection of a data unit erasure or loss at the receiving end of said transmission channel (col. 6, lines 60-68);
- one of increasing the count value by a predetermined value and decreasing said predetermined threshold value when a data unit erasure or loss has been detected, wherein the predetermined value is greater than one (col. 6, lines 60-65; the threshold is decreased since the window size is smaller).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen-714 with that of Stevens. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the increased rate of acknowledgement signals disclosed by Chen-714 is useful in the case of a noisy environment wherein higher error rates may exist (col. 6, lines 65-68).

Also not explicitly disclosed by Stevens and Chen-714 is: counting the number of data units which have been successfully received and generating a count value based on the number of data units that have been successfully received, and transmitting an acknowledgement message when said count value exceeds a predetermined threshold value.

Art Unit: 2133

Chen-719 in an analogous art teaches counting correctly received data (col. 12, lines 62-65) and transmitting an acknowledgement message when the count value exceeds a predetermined threshold value (col. 12, lines 50-55; an acknowledgement is transmitted when the count exceeds the unit size of the sub-window  $w/2$ , which is a threshold).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen-719 with the system of Stevens and Chen-714. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the method of Chen-719 was an equivalent method of transmitting an acknowledgement for a successfully received window.

As per claim 5:

Stevens teaches an error control method for a transmission channel, wherein a transmission of data units via said transmission channel is controlled in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control method comprising the steps of:

- defining a transmit window based on said sequence number of said unacknowledged preceding data unit (page 280, section 20.3, paragraph 1);
- allowing the transmission of a data unit only if the sequence number of said data unit lies within said transmit window (page 280, section 20.3,



Art Unit: 2133

paragraph 1; Figure 20.4 shows that packets 10 and 11 can not be sent because it is not in the window);

Not explicitly disclosed by Stevens is:

- estimating a transmission quality of said transmission channel by detecting a data unit erasure or loss at the receiving end of said transmission channel; and
- changing the transmission rate of acknowledgment messages in dependence on a retransmission of a negatively acknowledged data unit, said step of changing including the steps of:
  - counting the number of unacknowledged data units that have been transmitted and generating a count value based on the number of unacknowledged data units;
  - polling for a transmission of an acknowledgment message when said count value exceeds a predetermined threshold value; and
  - one of increasing the count value by a predetermined value and decreasing said predetermined threshold value when it is detected that a negatively acknowledged data unit has been retransmitted, wherein the predetermined value is greater than one.

Chen-714 in an analogous art teaches:

- estimating a transmission quality of said transmission channel by detecting a data unit erasure or loss at the receiving end of said transmission channel (col. 16, lines 9-14); and

Art Unit: 2133

- changing the transmission rate of acknowledgment messages in dependence on a retransmission of a negatively acknowledged data unit (col. 6, lines 60-68; the rate is changed in dependence to a noisy environment wherein higher error rates may exist, which results in retransmissions of negatively acknowledged data units).
- one of increasing the count value by a predetermined value and decreasing said predetermined threshold value when it is detected that a negatively acknowledged data unit has been retransmitted, wherein the predetermined value is greater than one (col. 6, lines 60-65; the threshold is decreased since the window size is smaller).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen-714 with that of Stevens. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the increased rate of acknowledgement signals disclosed by Chen-714 is useful in the case of a noisy environment wherein higher error rates may exist (col. 6, lines 65-68).

Also not explicitly disclosed by Stevens and Chen-714 is: counting the number of unacknowledged data units that have been transmitted and generating a count value based on the number of unacknowledged data units; and polling for a transmission of an acknowledgment message when said count value exceeds a predetermined threshold value.

Art Unit: 2133

Chen-719 in an analogous art teaches counting transmitted unacknowledged data packets (col. 12, lines 62-65; these data units are unacknowledged data units because the acknowledgement has not been sent) and transmitting an acknowledgement message when the count value exceeds a predetermined threshold value (col. 12, lines 50-55; an acknowledgement is transmitted when the count exceeds the unit size of the sub-window  $w/2$ , which is a threshold. Since the acknowledgement is sent to the transmitter, the transmitter must for poll for the acknowledgement).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen-719 with the system of Stevens and Chen-714. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the method of Chen-719 was an equivalent method of transmitting an acknowledgement for a successfully received window.

As per claim 8:

Claim 8 is rejected in view of Stevens in view of Chen-714 in view of Chen-719 as applied above to claim 1 for failing to limit the parent claim.

As per claim 9:

Chen-714 further teaches the method above, wherein said predetermined threshold value is adjusted on the basis of the transmission rate of the data, the size of the window, or the round-trip delay of the channel (col. 6, lines 60-65).

As per claim 22:

Art Unit: 2133

Claim 22 is rejected in view of Stevens in view of Chen-714 in view of Chen-719 as applied above to claim 5 for failing to limit the parent claim.

As per claim 24:

Chen-714 further teaches the method above, wherein said predetermined threshold value is adjusted on the basis of the transmission rate of the data, the size of the window, or the round-trip delay of the channel (col. 6, lines 60-65).

As per claim 27:

Chen-714 further teaches the method above, wherein said predetermined threshold value is adjusted on the basis of the transmission rate of the data, the size of the window, or the round-trip delay of the channel (col. 6, lines 60-65).

As per claim 42:

Stevens, Chen-714, and Chen-719 teach the claimed apparatus as detailed above. Not explicitly disclosed is said controller is arranged to perform a control such that a polling bit is set in the header of a data unit to be transmitted. However, Stevens teaches an optional block in the header of a data unit on page 34, Figure 3.1.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a polling bit in the header of a data unit. One of ordinary skill in the art at the time the invention was made would have been motivated to do so since an optional block in the data unit header is available for an extra bit and channel resources would be used more efficiently by including the polling bit with the header instead of sending it separately as disclosed by Stevens on page 265, section 19.3, paragraph 2.

7. Claims 11, 15, 18-20, 36, 38, and 41 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen-714 in view of Chen-719.

As per claim 11:

Chen-714 teaches an error control apparatus for performing a control as to allow a transmission of data units via a transmission channel in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control apparatus comprising:

- a detecting apparatus for detecting a transmission quality of said transmission channel by detecting data unit erasure or loss at a receiving end of said transmission channel (col. 16, lines 9-14);
- a controller for changing the transmission rate of acknowledgment messages in response to detection of a data unit erasure or loss by said detecting apparatus (col. 6, lines 60-68), said controller arranged and dimensioned for one of increasing the count value by a predetermined value and decreasing said predetermined threshold value in response to detection of a data unit erasure or loss (col. 6, lines 60-65; the threshold is decreased since the window size is smaller).

Not explicitly disclosed by Chen-714 is a counting unit for counting the number of data units that are successfully received and outputting a count value; a comparator connected to said counting unit for receiving said count value and comparing said count value to a predetermined threshold value, and transmitting and an acknowledgment message when the count value exceeds a

Art Unit: 2133

predetermined threshold value, wherein the predetermined value is greater than one.

Chen-719 in an analogous art teaches counting correctly received data (col. 12, lines 62-65) and transmitting an acknowledgement message when the count value exceeds a predetermined threshold value (col. 12, lines 50-55; an acknowledgement is transmitted when the count exceeds the unit size of the sub-window  $w/2$ , which is a threshold).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen-719 with the system of Stevens and Chen-714. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the method of Chen-719 was an equivalent method of transmitting an acknowledgement for a successfully received window.

As per claim 15:

Chen-714 teaches an error control apparatus for performing a control so as to allow a transmission of data units via a transmission channel in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control apparatus comprising:

- a detecting apparatus for detecting a transmission quality of said transmission channel by detecting a negative acknowledgement message at a transmission end of said transmission channel (col. 16, lines 9-14);

Art Unit: 2133

- a controller for changing the transmission rate of acknowledgment messages in response to the retransmission of a negatively acknowledged data unit, (col. 6, lines 60-68), said controller arranged and dimensioned for one of increasing the count value by a predetermined value and decreasing said predetermined threshold value in response to retransmission of a negatively acknowledged data unit and (col. 6, lines 60-65; the threshold is decreased since the window size is smaller).

Not explicitly disclosed by Chen-714 is a counting unit for counting the number of unacknowledged data units that are transmitted by the transmission channel and outputting a count value; a comparator connected to said counting unit for receiving said count value and comparing said count value to a predetermined threshold value, and polling for transmission of an acknowledgement message when the count value exceeds the predetermined threshold value, wherein the predetermined value is greater than one.

Chen-719 in an analogous art teaches counting transmitted unacknowledged data packets (col. 12, lines 62-65; these data units are unacknowledged data units because the acknowledgement has not been sent) and transmitting an acknowledgement message when the count value exceeds a predetermined threshold value (col. 12, lines 50-55; an acknowledgement is transmitted when the count exceeds the unit size of the sub-window  $w/2$ , which is a threshold. Since the acknowledgement is sent to the transmitter, the transmitter must for poll for the acknowledgement).

Art Unit: 2133

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen-719 with the system of Stevens and Chen-714. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the method of Chen-719 was an equivalent method of transmitting an acknowledgement for a successfully received window.

As per claim 18:

Claim 18 is rejected in view of Stevens in view of Chen-714 in view of Chen-719 as applied above to claim 11 for failing to limit the parent claim.

As per claim 19:

Chen-714 further teaches the method above, wherein said predetermined threshold value is adjusted on the basis of the transmission rate of the data, the size of the window, or the round-trip delay of the channel (col. 6, lines 60-65).

As per claim 20:

Stevens, Chen-714, and Chen-719 teach the claimed apparatus as detailed above. Not explicitly disclosed is a polling bit set in the header of the data unit to be transmitted. However, Stevens teaches an optional block in the header of a data unit on page 34, Figure 3.1.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a polling bit in the header of a data unit. One of ordinary skill in the art at the time the invention was made would have been motivated to do so since an optional block in the data unit



Art Unit: 2133

header is available for an extra bit and channel resources would be used more efficiently by including the polling bit with the header instead of sending it separately as disclosed by Stevens on page 265, section 19.3, paragraph 2.

As per claim 36:

Claim 36 is rejected in view of Chen-714 in view of Chen-719 as applied above to claim 15 for failing to limit the parent claim.

As per claim 38:

Chen-714 further teaches the apparatus above, wherein said controller is arranged to adjust said predetermined threshold value based on at least one of a transmission rate of the data, a size of the window, or a round-trip delay of said transmission channel (col. 6, lines 60-65).

As per claim 41:

Claim 41 is rejected in view of Chen-714 in view of Chen-719 as applied above to claim 18 for failing to limit the parent claim.

8. Claims 10, 31, 34, and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens in view of Chen-714 in view of Chen-719 as applied above, and further in view of Rathonyi et al (US. Pat. 6,359,877).

As per claim 10:

Stevens, Chen-714, and Chen-719 substantially teach the method above. Not explicitly disclosed is the transmission channel being an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPSR network. Rathonyi et al, in an analogous art, states that GPRS is the packet

Art Unit: 2133

mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25). Rathonyi et al further states in lines 59-64 of column 5 that RLC blocks are used to provide efficient transmission on the radio interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Stevens and Chen to a RLC connection in a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that it would be advantageous to apply an error control method to a transmission channel in which an RLC connection of a GPRS network is used. RLC provides the advantages of efficient transmission in a GPRS network, and GPRS is the packet mode used in a standardized global communication system.

As per claim 31:

Stevens, Chen-714, and Chen-719 substantially teach the method above. Not explicitly disclosed is the transmission channel being an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25). Rathonyi et al further states in lines 59-

Art Unit: 2133

64 of column 5 that RLC blocks are used to provide efficient transmission on the radio interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Stevens and Chen to a RLC connection in a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that it would be advantageous to apply an error control method to a transmission channel in which an RLC connection of a GPRS network is used. RLC provides the advantages of efficient transmission in a GPRS network, and GPRS is the packet mode used in a standardized global communication system.

As per claim 34:

Stevens, Chen-714, and Chen-719 substantially teach the method above. Not explicitly disclosed is the transmission channel being an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25). Rathonyi et al further states in lines 59-64 of column 5 that RLC blocks are used to provide efficient transmission on the radio interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Stevens and Chen to a

Art Unit: 2133

RLC connection in a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that it would be advantageous to apply an error control method to a transmission channel in which an RLC connection of a GPRS network is used. RLC provides the advantages of efficient transmission in a GPRS network, and GPRS is the packet mode used in a standardized global communication system.

As per claim 35:

Stevens, Chen-714, and Chen-719 substantially teach the method above. Not explicitly disclosed is the transmission channel being an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25). Rathonyi et al further states in lines 59-64 of column 5 that RLC blocks are used to provide efficient transmission on the radio interface.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of Stevens and Chen to a RLC connection in a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that it would be advantageous to apply an error control method to a transmission channel in which an RLC

Art Unit: 2133

connection of a GPRS network is used. RLC provides the advantages of efficient transmission in a GPRS network, and GPRS is the packet mode used in a standardized global communication system.

9. Claims 21, 46, 49, and 50 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen-714 in view of Chen-719 as applied above, and further in view of Rathonyi et al (US. Pat. 6,359,877).

As per claim 21:

Chen-714 and Chen-719 substantially teach the apparatus above. Not explicitly disclosed is the apparatus being arranged in a mobile station or a network element of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the apparatus of Stevens and Chen to a network element of a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that GPRS offers the advantages of allowing a single user to occupy more than one transmission resource simultaneously and that the application of an error control method would make it more reliable.

As per claim 46:

Art Unit: 2133

Chen-714 and Chen-719 substantially teach the apparatus above. Not explicitly disclosed is the apparatus being arranged in at least one of a mobile station or a network element of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the apparatus of Stevens and Chen to a network element of a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that GPRS offers the advantages of allowing a single user to occupy more than one transmission resource simultaneously and that the application of an error control method would make it more reliable.

As per claim 49:

Chen-714 and Chen-719 substantially teach the apparatus above. Not explicitly disclosed is the apparatus being arranged in at least one of a mobile station or a network element of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the apparatus of Stevens and Chen to

Art Unit: 2133

a network element of a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that GPRS offers the advantages of allowing a single user to occupy more than one transmission resource simultaneously and that the application of an error control method would make it more reliable.

As per claim 50:

Chen-714 and Chen-719 substantially teach the apparatus above. Not explicitly disclosed is the apparatus being arranged in at least one of a mobile station or a network element of a GPRS network. Rathonyi et al, in an analogous art, states that GPRS is the packet mode for the Global System for Mobile Communication (GSM) standard and is designed to allow a single user to occupy more than one transmission resource simultaneously (column 2, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the apparatus of Stevens and Chen to a network element of a GPRS network. One of ordinary skill in the art at the time the invention was made would have been motivated to do so because one of ordinary skill in the art would have recognized that GPRS offers the advantages of allowing a single user to occupy more than one transmission resource simultaneously and that the application of an error control method would make it more reliable.

Art Unit: 2133

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Nguyen whose telephone number is (571) 272-7214. The examiner can normally be reached on M-F, 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steve Nguyen

Examiner

Art Unit 2133



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